Review Questions for Unit 1: Carbs, Fats and Proteins (By: Kathryn)

1. What kind of bond links monosaccharides together?
2. Glycosidic bonds
3. Ionic Bonds
4. Best Bonds
5. Archaeopteryx Bonds
6. Which word describes the subunits involved in polymerization?
7. Polysaccharides
8. Isomers
9. Monomers
10. Beavers
11. Which four components comprise a phospholipid?
12. Fatty Acid Chains, Glycerol, Sulphate Group, Non Polar Unit
13. Fatty Acid Chains, Alcohol, Phosphate Group, Polar Unit
14. Fatty Acid Chains, glycerol, Phosphate group, non polar unit
15. Fatty Acid Chains, glycerol, phosphate group, polar unit
16. How many carbon rings link together to form a steroid?
17. 6
18. 10
19. 4
20. 56
21. Which functional group links to a hydrocarbon chain to form a fatty acid?
22. Alcohol
23. Carboxyl
24. Carbonyl (end)
25. Carbonyl (Middle)
26. (Short answer) Describe the differences, physical and chemical, that exists between saturated and unsaturated fats. Provide a diagram of each.
27. (Short Answers) Provide a reason why it would and would not be beneficial to a fish to have mostly unsaturated fats inside their fishy bodies. Name your favourite type of fish. ( \*cough\* Nemo is a Clown fish, Dory is a Blue Tang)

ANSWERS

1.a) 2.c) 3.d) 4.c) 5.b)

6. (See page 34 for diagram) Saturated fats have only single bonds in their hydrocarbon chains, allowing them to be stacked easier and therefore exist as solids at room temperature. Unsaturated fats have one or more double bonds within their hydrocarbon chains and are kinked or irregular in shape, and cannot rotate. They cannot be stacked as easily and therefore exist as liquids at room temperature.

7. Unsaturated fats are liquids and flexible, even at lower temperature like in the chilly waters of an ocean. This means a fish can move around and swim even when it is super cold, and therefore they can keep water moving through their gills and keep breathing. If they had rigid fat they could not move as easily, and not breathe as easily. I don’t know my favourite type of fish but sharks are fish, and that’s pretty darn cool.